Maestría en Ciencias con especialidad en Sistemas Inteligentes (MIT)
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Evidencia de la productividad de estudiantes y NAB de MIT por LGAC

En la MIT el principal producto de la investigación desarrollada es una tesis con altos estándares de calidad, los cuales son descritos en la sección de seguimiento de los estudiantes, y que incluye la participación de sinodales, muchas veces externos al claustro y a la institución, que validan tanto el rigor de aplicación del método científico, como la pertinencia y originalidad del trabajo.

Eventualmente el alumno de MIT alcanza a hacer una publicación en conferencias arbitradas, pero dicha publicación no es requisito del programa, y en general las exigencias de tiempo de la tesis en si no permiten que el alumno se involucre en escribir y someter una publicación. En general los investigadores del claustro de MIT publican con sus alumnos de doctorado, que muchas veces vienen de la maestría MIT. Unas excepciones en los años del período son, por LGAC (el autor que es alumno de la MIT viene en **negritas**):

LGAC de Tecnologías de Conocimiento:

- Hector G. Ceballos, **Victor Flores-Solorio**, Juan Pablo Garcia, A Probabilistic BPMN Normal Form to Model and Advise Human Activities, Volume 9318 of the series Lecture Notes in Computer Science, pp 51-69, 2015.

- **Enrique A. GARCIA** and Ramón BRENA, Real Time Activity Recognition Using a Cell Phone's Accelerometer and Wi-Fi, *Workshop Proceedings of the 8th International Conference on Intelligent Environments J.A. Botía et al. (Eds.)* IOS Press, 2012.

- Brena, Ramon F.; **Handlin, Carl W.**; Angulo, Priscila, A smart grid electricity market with multiagents, smart appliances and combinatorial auctions, Smart Cities Conference (ISC2) proceedings, Guadalajara Mexico 25-28 Oct. 2015, pp.1-6, IEEE Conference Publications, 2015.

- **R. Wilhelmy**, **R. Nava**, R. Brena, L. Garrido, *Multiagent Gaia modeling of a hunter-prey scenario using ContractNET*, CIINDET 2014: XI Congreso Internacional sobre Innovación y Desarrollo Tecnológico, Cuernavaca, México, 2-4 abril 2014.

LGAC de Robótica:

- **Ernesto Torres** and Leonardo Garrido, Automated Generation of CPG-Based Locomotion for Robot Nao, RoboCup 2011: Robot Soccer World Cup XV, Volume 7416 of the series Lecture Notes in Computer Science pp 461-471, 2011.

- Luis C. Gonzalez-Sua, Olivia Barron, Rogelio Soto, Leonardo Garrido, **Ivan Gonzalez**, J. L. Gordillo and Alejandro Garza, Design and Implementation of a Fuzzy-Based Gain Scheduling Obstacle Avoidance Algorithm, 2013 12th Mexican International Conference on Artificial Intelligence, pp. 45-49, 2013.

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- **Jesus del Bosque**, Christian Hassard, Jose Luis Gordillo, Velocity Control of an Electric Vehicle over a CAN Network, Artificial Intelligence (MICAI), 2011 10th Mexican International Conference on, pp. 121 – 126, 2011.

LGAC de Sistemas Inspirados en la Naturaleza:

- **E Reyna-Ayala**, SE Conant-Pablos, H Terashima-Marín, Assembling Similar Tracking Approaches in Order to Strengthen Performance, Mexican Conference on Pattern Recognition, 201-210, 2014.

- EA Alanís-Reyes, **JL Hernández-Cruz**, JS Cepeda, **C Castro**, Analysis of machine learning techniques applied to the classification of masses and microcalcification clusters in breast cancer computer-aided detection, Scientific Research Publishing, 2012.

- Alanís-Reyes, E. A., **Hernández-Cruz, J. L.**, Terashima-Marín, H., Conant-Pablos, S. E., Evolutionary Feature Selection Applied to the Classification of Microcalcification Clusters and Masses for Breast Cancer Computer Aided Diagnosis, MIBISOC 2013, International Conference on Medical Imaging usingBio-inspired and Soft Computing, May 15-17, 2013.
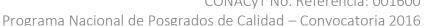
Dichos artículos se anexan en la sección de contribución al conocimiento.

Asimismo, varios alumnos egresados de la maestría hicieron publicaciones durante el período 2011-2015, pero ya no estando inscritos en el programa, como las siguientes (el exalumno aparece en **negritas**):

LGAC de Tecnologías del Conocimiento:

- **S. Garza**, R. Brena, STRUCTURAL TOPIC MINING IN WEB COLLECTIONS, Applied and Computational Mathematics an International Journal, V.11, N.2, Special issue on Applied Artificial Intelligence and Soft Computing, Ildar Batyrshin, Grigori Sidorov (eds.), pp. 271-285, ISSN: 1683-3511, 2012.

- **E. Ramirez**, R. Brena, D. Magatti, F. Stella, Topic Model Validation, Neurocomputing journal, v.76 no.1, Special issue on advances in web intelligence, pp. 125-133, 2012.

- **S. Garza**, R. Brena, Topic discovery in web collections via graph local clustering, chapter 11 in book "Quantitative Semantics and Soft Computing Methods for the Web: Perspectives and Applications", pp.228-253, Information Science Pub., USA, 2011.

- **E. Ramirez**, R. Brena, Query based topic modeling: an information-theoretic framework for semantic analysis in large-scale collections, chapter 4 in book "Quantitative Semantics and Soft Computing Methods for the Web: Perspectives and Applications", pp.69-95, Information Science Pub., USA, 2011.

- **E. Garcia-Ceja**, R. Brena, *Long-term Activities Segmentation using Viterbi Algorithm with a k-minimum-consecutive-states Constraint*, ANT 2014: The 5th International Conference on

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Ambient Systems, Networks and Technologies, June 2 - 5, 2014.

- **E. Garcia-Ceja**, R. Brena, C.E. Galvan-Tejada, *Contextualized Hand Gesture Recognition with Smartphones*, MCPR 2014: 6th Mexican Conference on Pattern Recognition, June 25-28th, Cancun, Mexico, Lecture Notes in Computer Science Volume 8495, pp 122-131, 2014.

- **G. Lopez**, R.Brena, *Probabilistic Situation Modeling from Ambient Sensors in a Health Condition Monitoring System*, UCAmI 2013, 7th International Conference on Ubiquitous Computing & Ambient Intelligence, Guanacaste, Costa Rica, December 2-6 2013, UCAmI 2013 proceedings, LNCS 8276, Urzaiz et al. (Eds.), pp 175-182, 2013.

- **G. Lopez**, R. Brena, *Ambient Intelligence Application of Bayesian Networks in a Home Security System*, 2011 Iberoamerican Conference on Electronics Engineering and Computer Science (CIIECC 2011), Aguascalientes, Mexico, April 13-15, 2011. Publicado en Research in Computer Science, Vol 52, "Advances in Computer Science and Electronic Systems", C. Delgado, C.A. Gutierrez, R. Velazquez, J.H. Sossa (eds.), ISSN 1870-4069, pp 97-106, 2011.

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- ,**JL Ortega-Garcia**, JL Gordillo, R Soto, A new method to follow a path on indoor environments applied for mobile robotics, 11th IEEE International Conference on Control & Automation (ICCA), 631-636, 2014.

- JS Cepeda, L Chaimowicz, R Soto, JL Gordillo, **EA Alanís-Reyes**, A behavior-based strategy for single and multi-robot autonomous exploration, Sensors 12 (9), 12772-12797, 2012.

LGAC de Sistemas Inspirados en la naturaleza:

- Conant-Pablos, S. E., **Ferrer-Soriano, H. J.**, Terashima-Marín, H., Evolving Solutions of Mixed-Model Assembly Line Balancing Problems by Chaining Heuristic Optimization Methods}, Proceedings of the Genetic and Evolutionary Computation Conference, pp. 49-50, 2011.

- **J Arriaga-González**, M Valenzuela-Rendón, Reinforcement Learning Method for Portfolio Optimal Frontier Search, Mexican International Conference on Artificial Intelligence, pp. 245-255, 2013.

- **J Arriaga**, M Valenzuela-Rendón, Steepest ascent hill climbing for portfolio selection, European Conference on the Applications of Evolutionary Computation, 145-154, 2012.

- **DJ Magaña-Lozano**, SE Conant-Pablos, H Terashima-Marin, Exploring the solution of course timetabling problems through heuristic segmentation, Mexican International Conference on Artificial Intelligence, 347-358, 2012.

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El claustro de profesores de MIT realizó un número importante de publicaciones, siendo la mayoría de ellas hechas en colaboración con estudiantes de doctorado, tanto del Doctorado en Comunicaciones y Tecnologías de Información (DTC) como el de Ciencias de Ingeniería (DCI).

LGAC de Tecnologías de Conocimiento (los alumnos participantes, no necesariamente de MIT, vienen en **negritas**):

- **C.E. Galván-Tejada**, J.P. García-Vázquez, **J.I. Galván-Tejada, J.R. Delgado-Contreras** and R. Brena, *Infrastructure-Less Indoor Localization Using the Microphone, Magnetometer and Light Sensor of a Smartphone*, Sensors 2015, 15, pp.20355-20372; doi:10.3390/s150820355, MDPI, 2015.

- **E. Garcia-Ceja**, R. Brena, **J.C. Carrasco-Jimenez**, L. Garrido, *Long-Term Activity Recognition from Wristwatch Accelerometer Data*, Sensors journal v.14, No.12, pp.22500-22524, doi:10.3390/s141222500, MDPI, 2014.

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- **Enrique Garcia-Ceja**, Ramon Brena, Building Personalized Activity Recognition Models with Scarce Labeled Data Based on Class Similarities, Ubiquitous Computing and Ambient Intelligence. Sensing, Processing, and Using Environmental Information (UCAmI 2015), Puerto Varas, Patagonia, Chile - 1st - 4th December 2015, Volume 9454 of the series Lecture Notes in Computer Science pp 265-276, Springer 2015.

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- **María Paula González**, Carlos I. Chesñevar, Ramon Brena, *Modeling User's Sentiment in User Segmentations: An Argumentation Approach for User Centered Design*, 17th International Conference, HCI International 2015, Los Angeles, CA, USA, August 2-7, 2015, Lecture Notes in Computer Science Volume 9172, pp 595-606, 2015.

- **C. E. Galván Tejada**, J. P. García Vázquez, **J. I. Galván-Tejada** and R. F. Brena, Multivariate or Univariate Model Analysis For Indoor Location Systems: A Comparison, International Conference on Electronics, Communications and Computers (CONIELECOMP 2015), Cholula Puebla, México February 25-27, 2015.

- **A. Nava**, L. Garrido, R. Brena, *Recognizing Activities Using a Kinect Skeleton Tracking and Hidden Markov Models*, Thirteenth Mexican International Conference on Artificial Intelligence (MICAI 2014), Tuxtla Gutiérrez, Chiapas, Mexico, 16-22 November, pp. 82-88, ISBN 978-1-4799-9900-2, 2014.

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- **J. C. Carrasco-Jiménez**, **J. M. Celaya-Padilla**, **G. Montes**, R. Brena, S. Iglesias, *Social Interaction Discovery: A Simulated Multiagent Approach*, MCPR 2013, 5th Mexican Conference, MCPR 2013, Querétaro, Mexico, June 26-29, 2013, Lecture Notes in Computer Science Volume 7914, pp 294-303, 2013.

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- H. Ceballos, J.P. Garcia, R. Brena, *Using Activity Theory and Causal Diagrams for Designing MultiAgent Systems that Assist Human Activities*, 12th Mexican International Conference on Artificial Intelligence, November 24 to 30, 2013, Mexico City, Mexico, MICAI 2013 Part I, LNAI 8265 proceedings, Castro, Félix; Gelbukh, Alexander; González Mendoza, Miguel (Eds.), pp.185-198.

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- **C. E. Galván-Tejada**, **J. C. Carrasco-Jiménez**, R. Brena, Bluetooth-WiFi based combined positioning algorithm, implementation and experimental evaluation, The 2013 Iberoamerican Conference on Electronics Engineering and Computer Science (CIIECC 2013), San Luis Potosí, Mexico, April 24-26 2013, *Proceedings Procedia Technology 7 (2013) pp. 37 – 45*.

- C. Chesñevar, A. Maguitman, E. Estévez, R. Brena, Integrating Argumentation Technologies and Context-Based Search for Intelligent Processing of Citizens' Opinion in Social Media, ICEGOV2012, 6th International Conference on Theory and Practice of Electronic Governance, pp.166-170, ALBANY, NY - 22-25 OCTOBER 2012.

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Propiedad intelectual

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